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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,197	11/26/2001	Thomas Reisinger	GR 99 P 1915	8423

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EXAMINER
KIM, KEVIN

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 02/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/994,197	REISINGER ET AL.	
	Examiner	Art Unit	
	Kevin Y Kim	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 11-14-2002 have been fully considered but they are not persuasive.

Applicant attempted to distinguish the claimed invention from the prior art reference, the Braun patent, by elaborating on the meaning of "one signal transmission channel." The signal transmission channel is defined to refer "the frequency and the bandwidth but not to the transmission medium." However, even with this narrowly defined meaning of the channel, the claimed invention is anticipated by the Braun patent. For, as seen in Fig. 3 of the Braun patent, the frequencies are changed only within a transmission channel or given frequency bandwidth f_I - f_{IV} .

The rejection of claims 6-8 under 35 U.S.C 112, first paragraph, is withdrawn in light f the argument that appears to confirm the assumption of how the claimed invention is made and used, as given in the previous Office action. Thus the 35 U.S.C 103 rejection based this assumption stands.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Braun et al (US 4,809,296).

Consider claims 1 and 11 first. Braun et al discloses a method of transmitting data modulated on a carrier frequency, wherein the same information is transmitted several times in succession (i.e., "more than one time ... in temporal succession") on different carrier frequencies. See Abstract and col.3, ll.4-40 in particular in connection with Figures 1-3. Further, all the frequencies selectively changed during transmission "occurs within one signal transmission channel" because all the different carrier frequencies are used in one transmission medium.

Regarding claim 2, Fig.3 shows a different frequency is used for each of a plurality of information units.

Regarding claim 3, see col. 3, ll. 32-35 teaching the applying of frequency hopping of the carrier frequencies (i.e., spreading to the data message by a predetermined sequences).

4. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Kay et al (5,513,183).

Kay et al teaches transmitting a method of transmitting data modulated on a carrier frequency, wherein the same information is transmitted several times in succession (i.e., "more than one time ... in temporal succession") on different carrier frequencies. See col.3, ll.54-63.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4, 5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al. as applied to their respective base claims above.

Braun et al discloses all the subject matter claimed, as explained above in connection with claim 3, but is silent on specific carrier frequencies or data rates. Thus, it can not be ascertained whether or not the difference between the carrier frequencies is in an order of magnitude of a data rate of the data message as claimed in claim 4 or in a range between one quarter and two times a data rate of the data message as claimed in claim 5. However, it is noted that a selection of carrier frequencies and data rate of the data is a matter of design choice, it would have been obvious to one skilled in the art at the time the invention was made to select carrier frequencies and data rata that have the claimed relation between them particularly because applicant have failed to disclosed such relationship between carrier frequencies and data rate solves any stated problems or is for any particular purposes. Likewise, although Braun et al is silent on a tolerance range o f carrier frequencies, it would have been obvious to one skilled in the art at the time the invention was made to set the tolerance of the carrier frequencies of Braun et al reasonably low, i.e., "not more than ± 10 %" because it is a well established engineering principle to have a low tolerance in order to provide stable carriers.

7. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al in view of Stewart et al (US 5,812,557).

Braun et al disclose all the subject matter claimed, as explained above in connection with claim 1, except for applying direct sequence spread spectrum to the data messages. Stewart et al teaches that spread spectrum signaling including direct sequence is one of best methods of communication in a noise transmission environment like a power line. See col. 4, ll.40-59.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to apply direct sequence spread spectrum modulation, as taught by Stewart et al to transmission data of Braun et al prior to modulated on carrier frequencies for the purpose of mitigating the effects of noise from outside of the transmission channel.

8. Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al (US 4, 809,296) in view of McCaslin (US 5, 036,294).

Consider claims 12, 13, 16 and 17. Braun et al discloses a carrier frequency generator (11) for generating different carrier frequencies and a transmitter (8) modulating the different carrier frequencies with data successively in time. Braun et al fails to show the specifics of the frequency generator that generates a plurality of different carrier frequencies. Referring to Fig.2, McCaslin teaches a crystal oscillator and at least one capacitor as a way of producing different carrier frequencies. Thus, it would have been obvious to one skilled in the at the time the invention was made to substitute the capacitor network including the crystal oscillator taught by McCaslin for the frequency generator of Braun et al. Further with respect to claim 16, all the frequencies selectively changed during transmission "occurs within one signal transmission channel" because all the different carrier frequencies are used in one transmission medium.

Regarding claims14 and 18 since the carrier frequencies of Braun et al are changed in a predefined way, the switches 42 in the combination of Braun et al and McCaslin, as described above, would have obviously programmed.

Regarding claims 15 and 19 further calling for a carrier frequency control device , Braun shows a frequency selecting circuit 10 that would have been connected to the capacitor network comprised of capacitors and switches, functioning as the carrier frequency generator, in the combination described above.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 703-305-4082. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

kvk
January 27, 2003

STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600